

Agenda

- **PTC Creo NC 3.0**
 - Dynamic tool axis definition
 - Optimization of Roughing toolpaths
 - Multi-task machining & synchronization
 - Usability improvements
- **PTC Creo NC 3.0 M040**
 - Additional synchronization functionality
- **Futures**
 - Surface milling modernization
 - Simulation of multiple operations in Vericut
 - Support of subroutines in pattern UI
 - Collision detection while using playpath

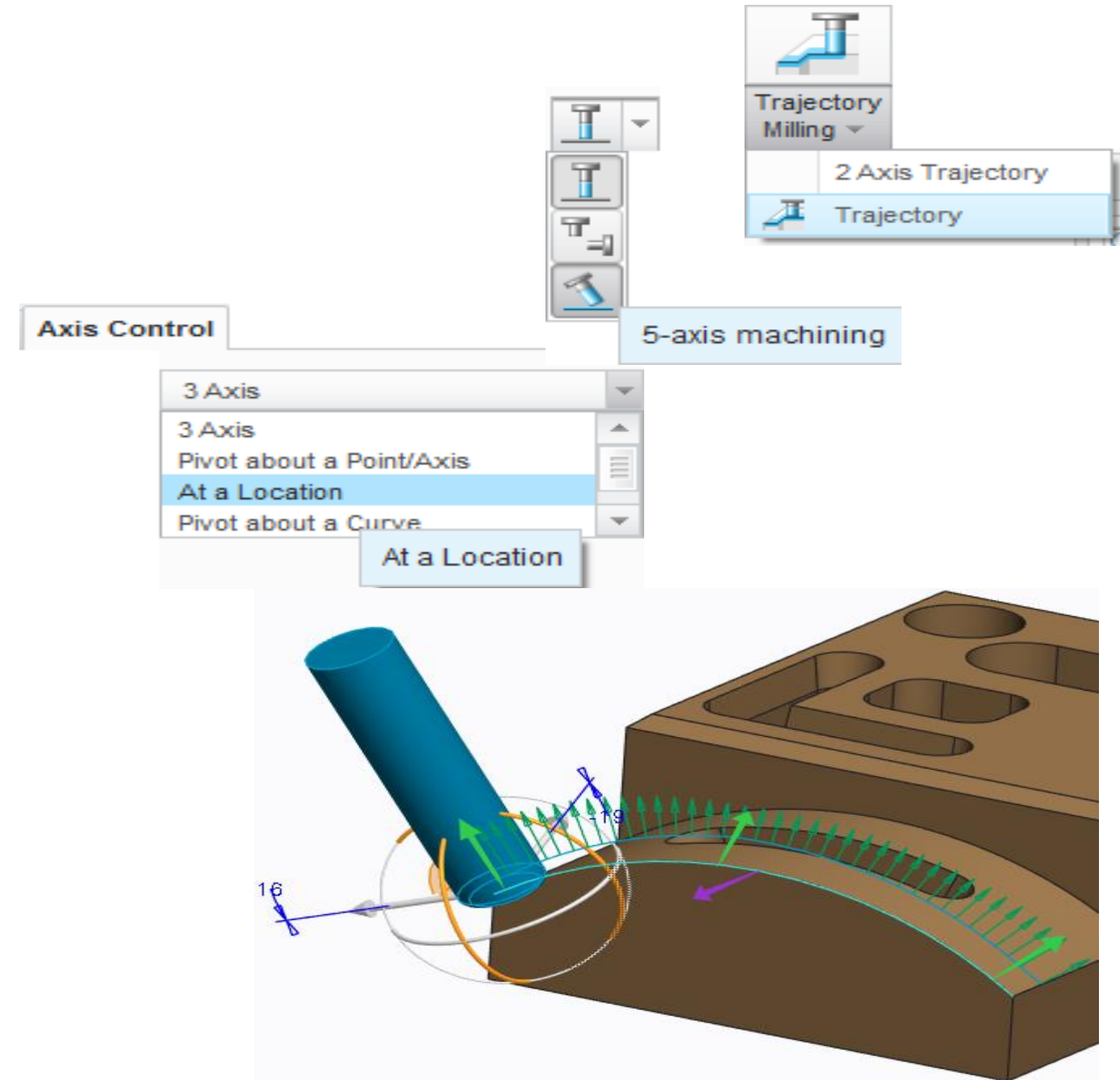
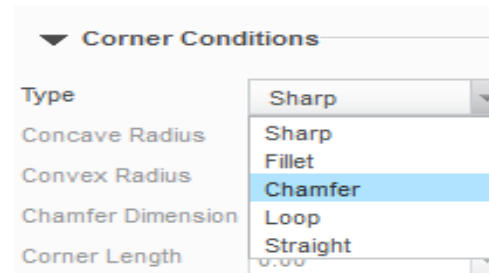
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Dynamic tool axis definition

Capabilities

- For 5 axis trajectory toolpath, Tool Axis Control
 - For curve cuts and drive surface cuts
 - At a Location
- Support for corner conditions
 - Loop, Fillet, Chamfer, Loop and Straight
- Support of 4 and 5 Axis Trajectory in Process Manager
- For 5 Axis Cutline Milling, Tool Axis Control



Benefits

- Unlock the potential of our 4 and 5 axes production machining capabilities
- Better control over toolpath creation

Roughing sequence optimizations Capabilities

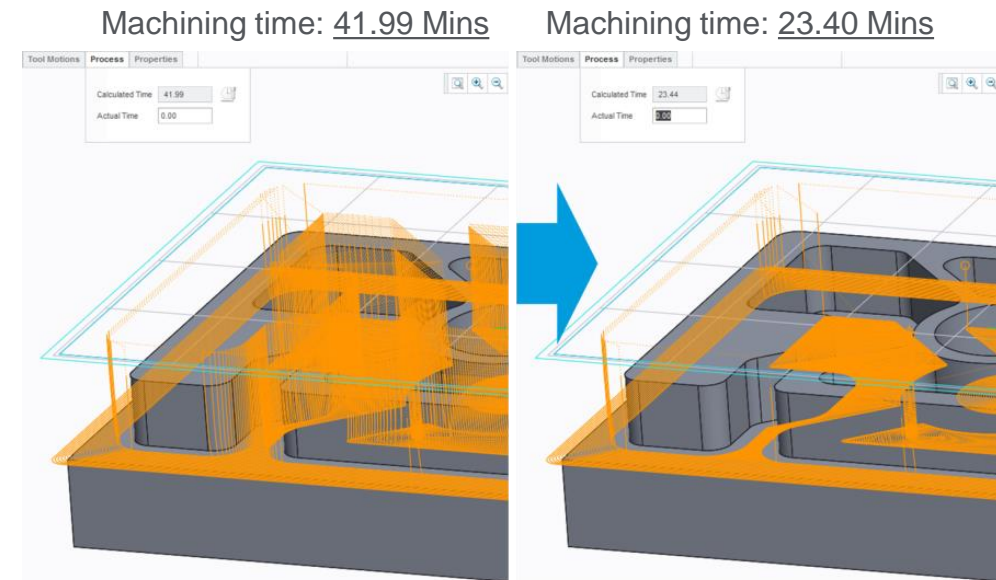
- 3 major enhancements to roughing sequences:
 - Minimize retracts:
 - For CONSTANT_LOAD, FOLLOW_HARDWALLS (volume milling), and FOLLOW_CONTOUR (roughing and re-roughing) scans.
 - A method to decide when the cutter stays on the surface.
 - 3 new retract connection options between zones
 - SHORTEST_ROUTE, MINIMAL_VERTICAL, ALWAYS
 - A way to control the retracts by lifting the tool while connecting to the next cut.
 - Exit and entry with an arc or helix.

Benefits

- Less “cutting-air” problems
- Less machining elapsed time
- Better and more control over connections
- Better control for machining hard materials

MIN_RETRACT_DISTANCE

Control the decision of remaining on the surface or insert a retract movement



- LIFT_TOOL_CLEARANCE set to 0:

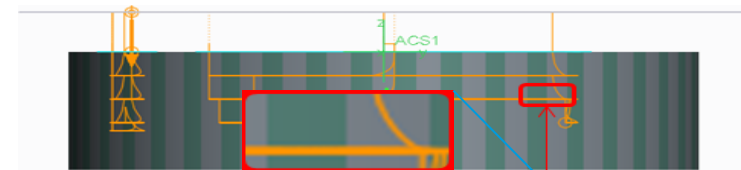
– Style 1: SHORTEST_ROUTE retract shape



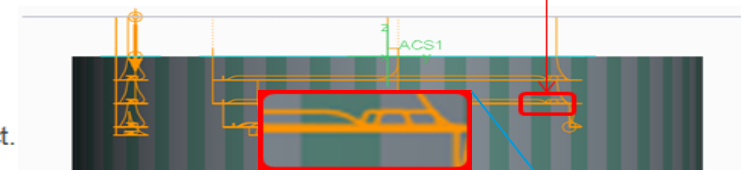
– Style 2: MINIMAL_VERTICAL retract shape



– Style 3: ALWAYS retract shape, full vertical retract.



- LIFT_TOOL_CLEARANCE set to (Value):



LIFT_TOOL_CLEARANCE

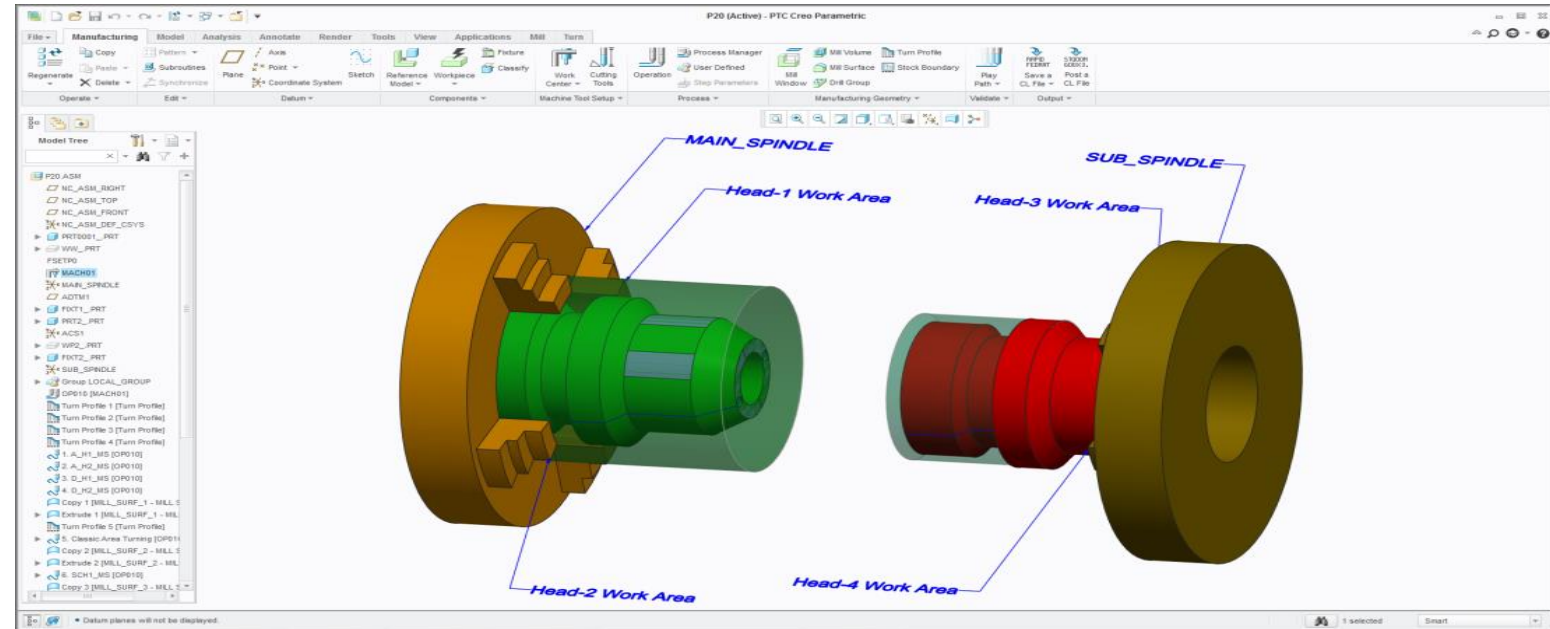
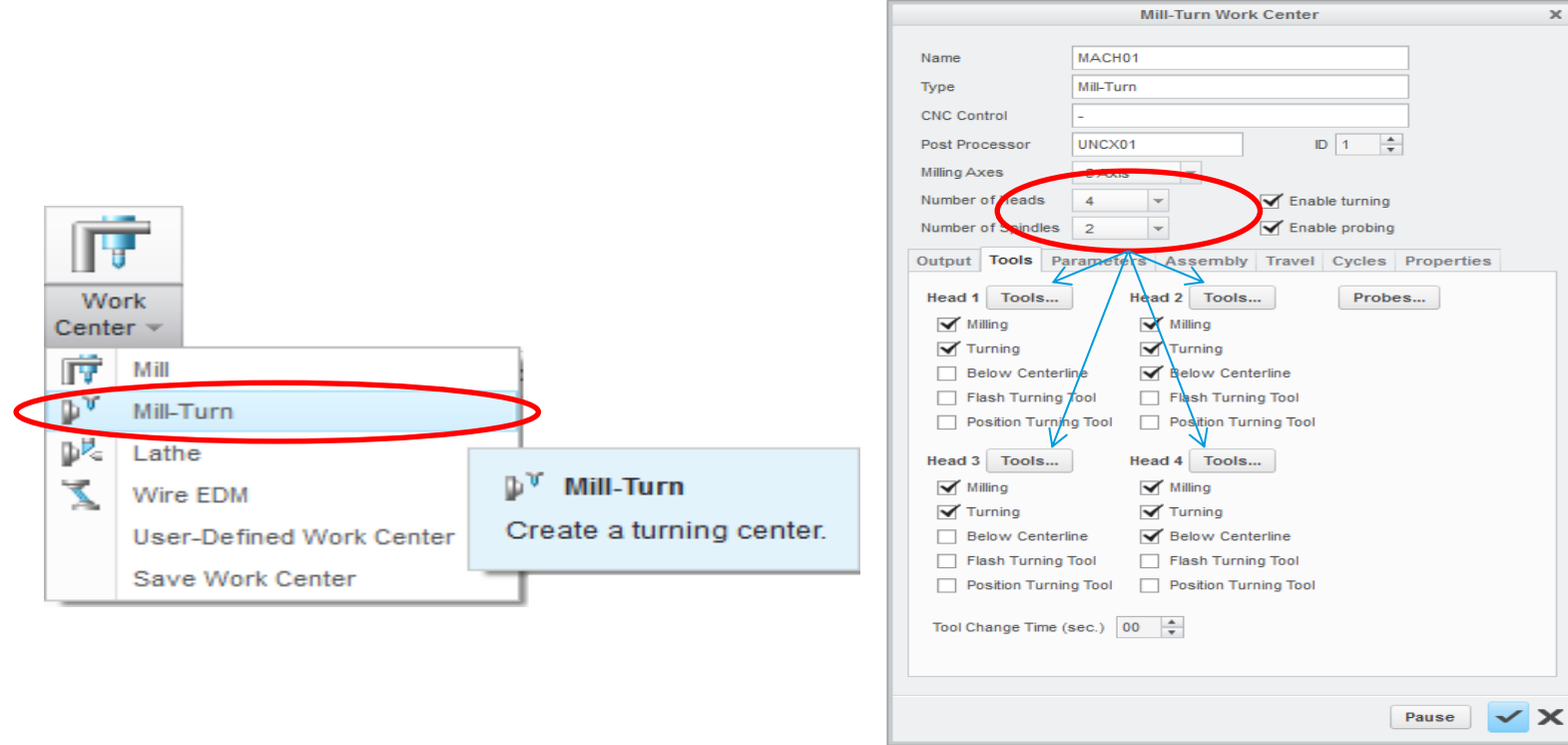
Determine a maximum height for tool lifting.

Multi-Task Machines Synchronization Capabilities

- Multi-Task work-center (up to 4 Heads, 2 Spindles)
- Synchronize turning and/or milling sequences
 - Synchronize at the start or on a point-on-toolpath
 - Provides two views: synchronized and machining order
- Manage separate tools sets by head
- Support assignment to main or sub-spindle
- Visualize synchronization

Benefits

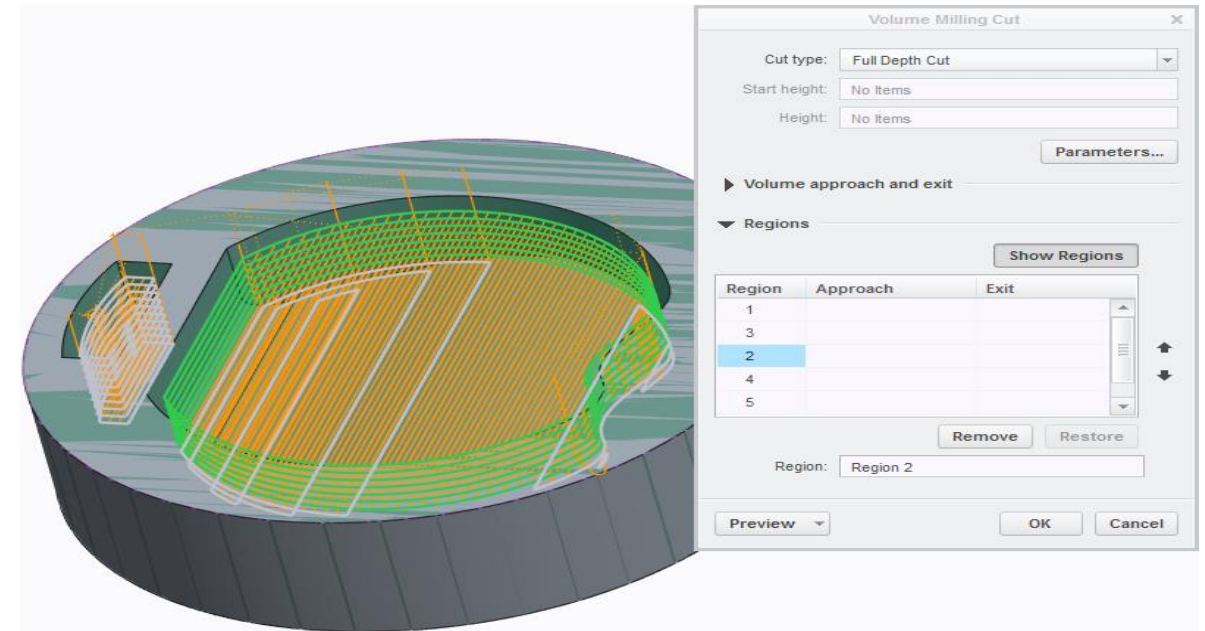
- Expanded capabilities to drive Multi-Task Machines
- Efficient and intuitive workflow to synchronize toolpaths



Usability improvements

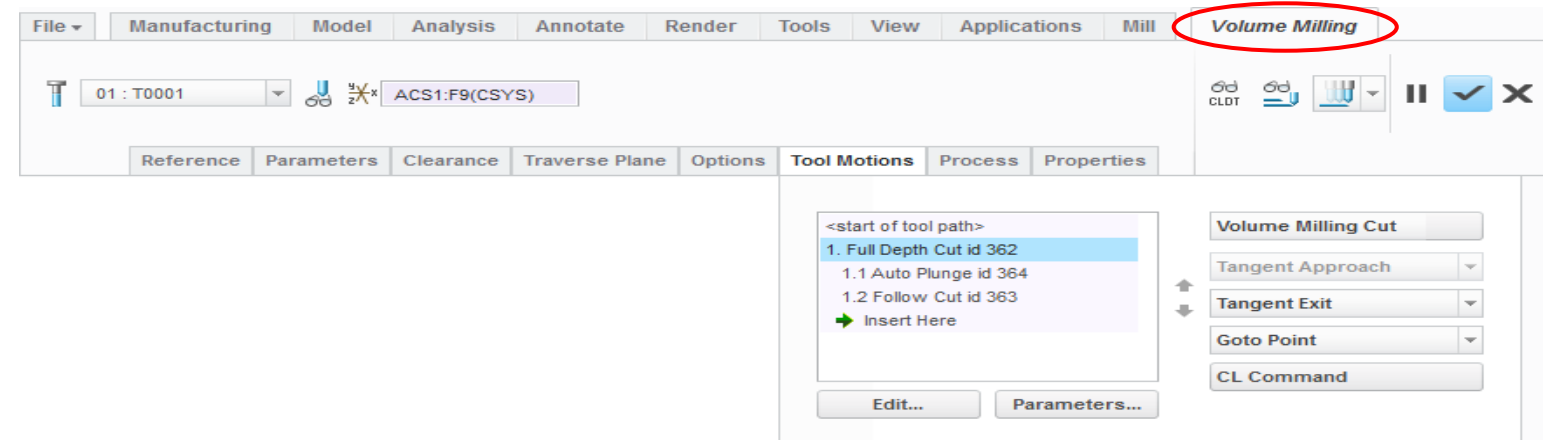
Capabilities

- Volume Milling UI Modernization
- Ability to drill holes that don't have axes
- Ability to export XML Templates using RMB
- Align Drag & Drop in NC to PTC Creo Parametric
- Simple Search available for NC, Mold, etc
- Support latest versions of GPOST and Vericut



Benefits

- Volume milling with a new ribbon-based UI consistent with all other NC steps
- Adopt behaviors from PTC Creo into PTC Creo NC



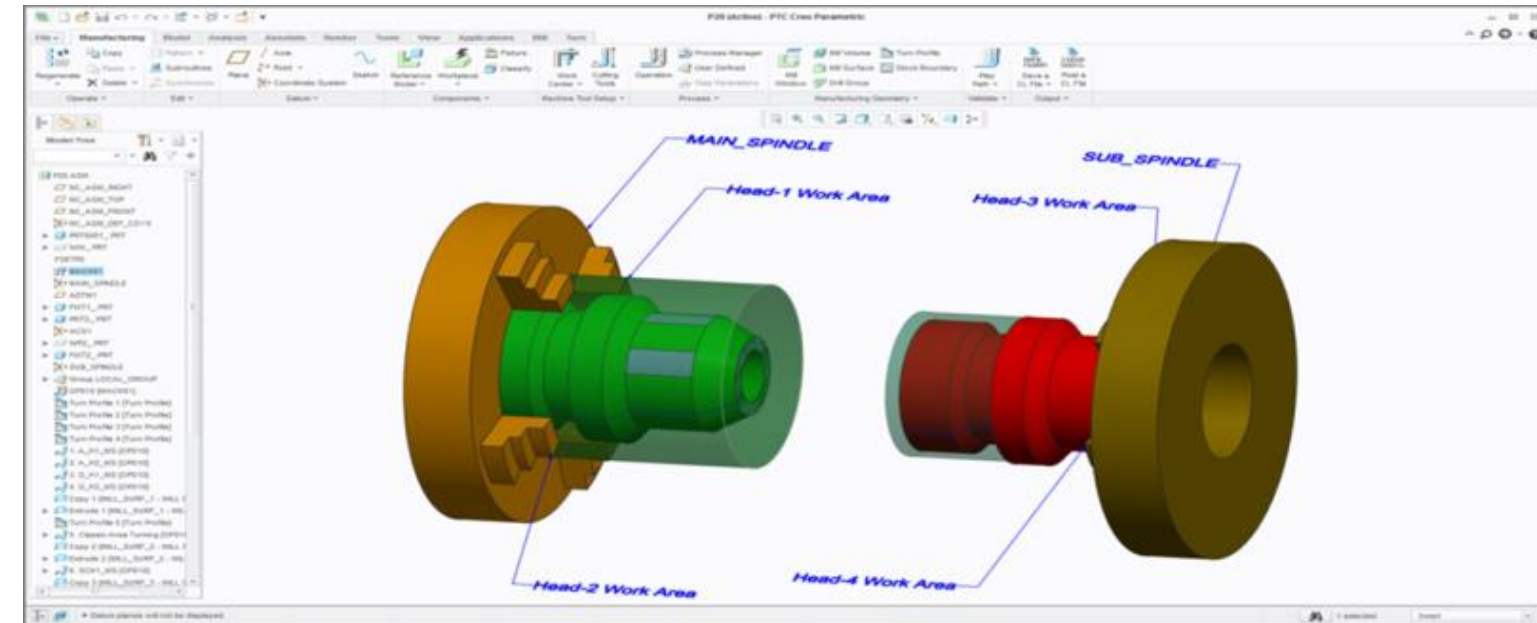
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Additional Multi-Task Machines Synchronization in PTC Creo 3.0 M040

Capabilities

- Add non-synched sequence to an existing synch group
- Create Synch-with-points less than total number of heads
- Support Synch at start and at end.



Benefits

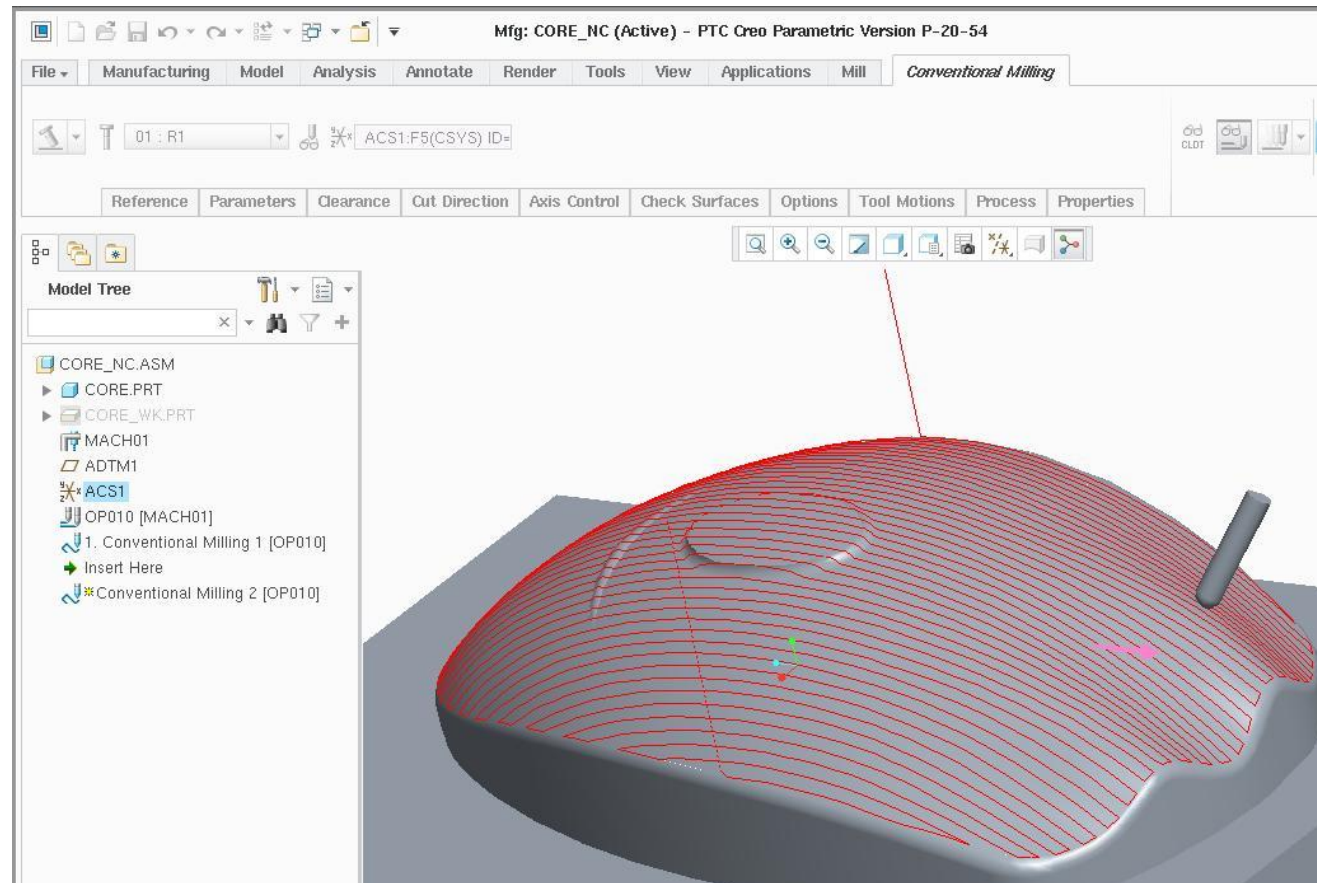
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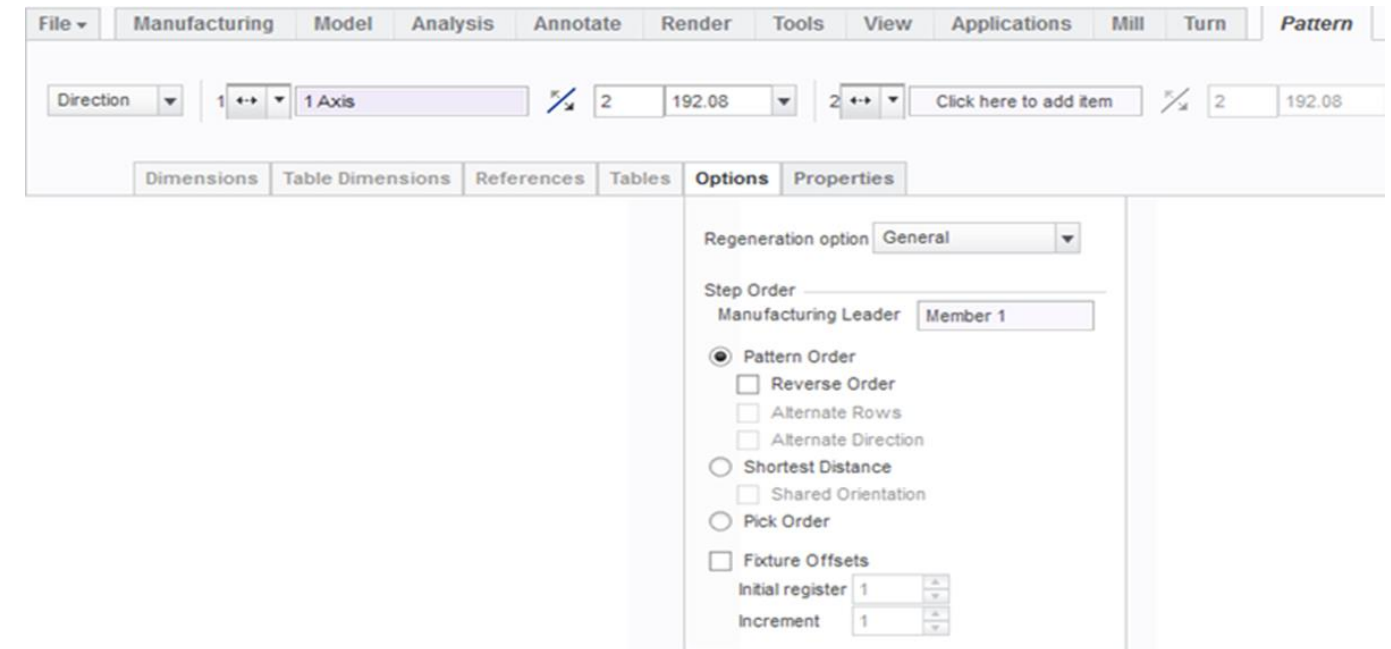
New Ribbon UI for Surface Milling

- Modernize Surface Milling
 - Another step on the progression of UI modernization projects



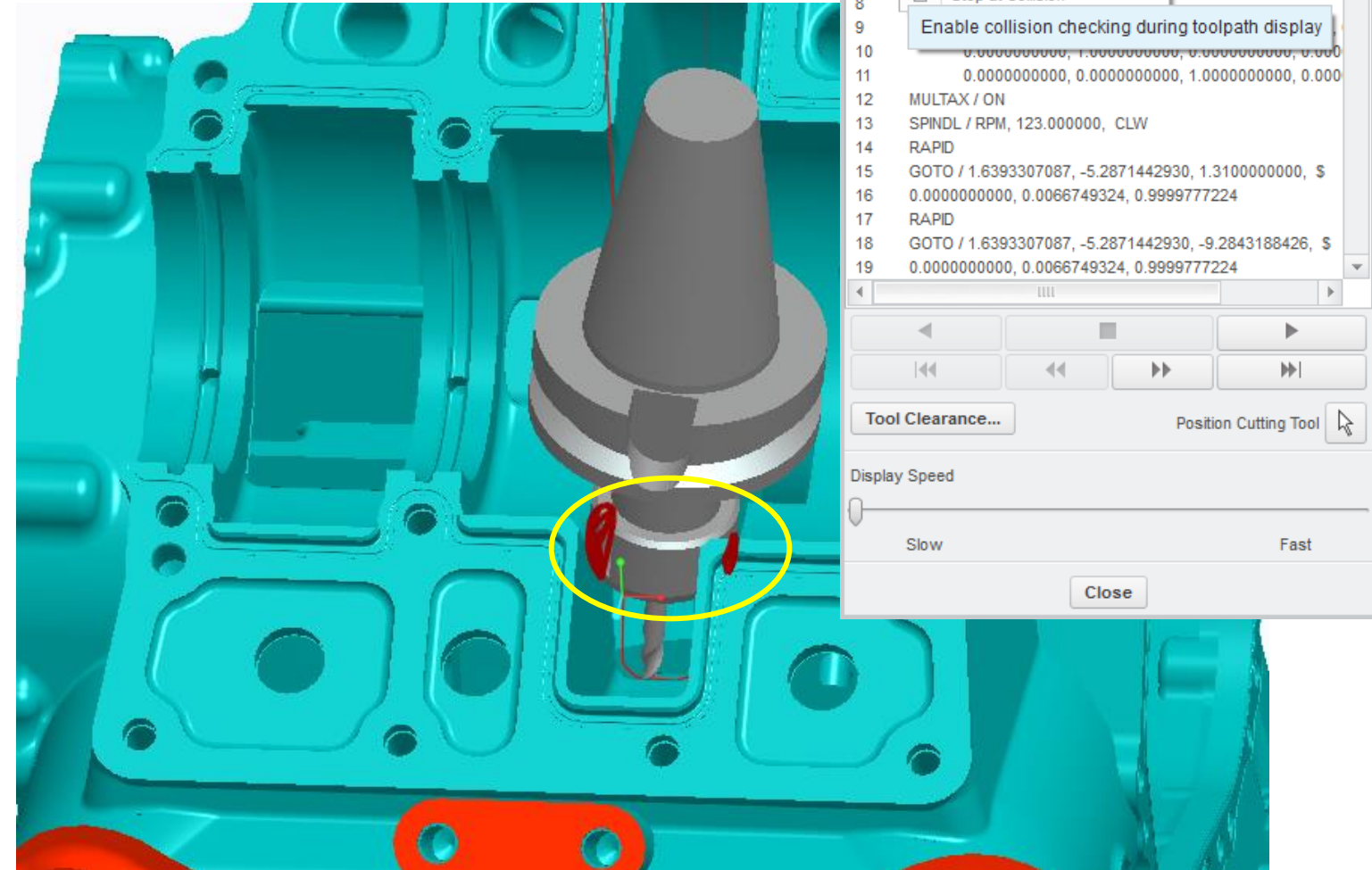
- Automatic simulation for multiple operations with different csys in Vericut.
 - To be able to simulate the complete process: Top and bottom machining of parts.

- Support Sub-routines in the Pattern UI



Improvements to play-path functionality

- Improvement on PTC Creo NC collision detection, while playing the toolpath
- This project make this collision detection mechanism speed-independent.



- Your feedback is valuable
- Don't miss out on the chance to provide your feedback
- Gain a chance to win an instant prize!
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